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USSR HEAVY ELECTRICAL MACHINERY SHIPMENTS

[The following shipments of heavy electrical machinery to USSR  
 construction projects were reported in the Soviet press, March -  
 August 1952.

Numbers in parentheses refer to appended sources.]

Electric Motors

Recently, the Moscow Electrical Plant imeni Vladimir Il'ich shipped 18 elec-  
 tric motors to the Kuybyshev GES project. The plant shipped hundreds of electric  
 motors to the Volga-Don Canal project.(1)

The Moscow Dinamo Plant imeni S. M. Kirov has received an order to build  
 electric motors for heavy cranes to be used at the Kuybyshev GES construction  
 site.(2) The plant is building a new series of direct-current motors for cranes.  
 These motors are one of its basic products. By reducing the weight of each mo-  
 tor 25 percent, the plant saved over 140 tons of copper, 1,000 tons of steel,  
 and 350 tons of pig iron in one year.(3) The Dinamo Plant built two units of  
 electrical equipment for the Moscow subway in excess of its planned production  
 quota for April. The weight of the new type of high-speed motors sent by the  
 plant for the subway was reduced from 1,400 to 700 kilograms. The reduction  
 in weight was made possible by the adoption of a new type of drive which assures  
 a considerable saving in electric power used to move a train. This innovation  
 saves 3 tons of metal and materials in the construction of each subway car.(4)  
 The plant, in cooperation with the All-Union Electrical Engineering Institute  
 imeni V. I. Lenin, has developed a new type of insulation for electric motors.  
 As a result of this development, the new electric motors operate with greater  
 safety and are less affected by moisture and heat.(5)

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On 5 July 1952, the Khar'kov Electrical Machinery Plant imeni Stalin delivered an electric motor for a walking excavator in about 1,000 hours less than the time used for building previous motors of similar design. By then, the plant had already built about 300 machines assigned for the second 6-month 1952 period.(6) On 5 August 1952, the plant shipped a large consignment of connectors for installation work to the Kuybyshev GES project.(7)

The Tallin Vol'ta Plant has adopted the statistical method for technical inspection of the quality of its products. The former single inspection of finished items has been replaced by regular selective inspection, where the quantities selected and the periods of inspection are determined on the basis of mathematical statistics and the law of probability. Statistical control of the quality of the products is designed to guarantee effective prevention of rejects, to synchronize technological operations with production operations, and to reduce labor consumption in inspection operations. The machines that cut electric motor shaft key grooves process over 300 parts in one shift. In the past, these parts were inspected and sorted as serviceable or faulty. The inspector rejected the faulty part and the plant stood the loss. Now the inspector makes hourly inspections of samples of the five to seven items machined every hour. At the end of 1951, more than 20 percent of the assembled motors were rejected by the testing bench. The knocking of the rotor and the stator accounted for the rejection of 16 to 17 percent of them. After the OTK (Division of Technical Control) and the plant had adjusted the machines and equipment, the rejects decreased considerable.

In June 1952, over 90 percent of the electric motors assembled were rated excellent, whereas in January 1952, only 35-40 percent of them could be rated excellent. Electric motors rejected because of knocking of the rotor and the stator were reduced to 1-2 percent. As a result of statistical inspection and of the competition to produce excellent quality products, the plant saved over 8,200 norm-hours and 220,000 rubles during the first 6 months of 1952.(8)

#### Generators and Transformers

On 28 June, the Leningrad Elektrosila Plant imeni S. M. Kirov completed the assembly of units for a second powerful high-speed generator for a hydroelectric station. This second aggregate was completed in considerably less time than the first one, which was built in May.(9) The plant has built a model of a 15-ton footstep bearing for a superpower generator at the Kuybyshev GES project.(10) The Elektrosila Plant has received order No 111-0040 to build the first hydrogenerator for the Kuybyshev GES project. The hydrogenerators for the Tsimlyanskaya, Kuybyshev, and Stalingrad GES projects are being built without the heavy crossbraces, making it possible to save several thousand tons of metal.(11)

The Yerevan Electrical Engineering Plant is building generators, four types of motors, welding transformers, mobile electric power stations, and locomotive headlights. The plant has designed a generator for the ZhES-4 mobile electric power station and a model of the SG-4 generator. Utilization of 23 innovators' suggestions will save 200,000 rubles annually. Thus far in 1952, 7.5 tons of ferrous metal, 2.8 tons of nonferrous metal, and a large quantity of electric cable, auxiliary materials, and electric power have been saved.(12)

Since the beginning of 1952, the Yerevan Electrical Machinery Plant has shipped 257 heavy transformers and generators to the Kuybyshev GES, the South Ukrainian and North Crimean Canals, and other large projects.(13)

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The Sverdlovsk Uralelktroapparat Plant is building superpower, high-speed oil circuit-breakers to be installed on the high-voltage transmission line between Moscow and Kuybyshev. The new oil circuit-breaker is about 12 meters high and requires 15 railroad cars to haul it. (14)

The Kazan' Serp i Molot Plant has shipped two electric power stations to the site of the Kuybyshev GES for the cableway. The plant will build a total of eight of these stations for the project. (15)

The Baku Electrical Machinery Plant has asked the Yerevan Industrial Rubber Plant to produce a large consignment of rubber sealing rings and sealing gaskets for transformers. Some of the transformers made by the Baku Electrical Machinery Plant will be shipped to the Volga, Amu-Dar'ya, and Dneper construction projects. (16)

The Institute of Power Engineering and Electrical Engineering is studying the possibility of using cast iron in electric machine building. The replacement of steel parts by cast-iron parts of different types will considerably reduce costs and speed up production. Especially profitable for this purpose is a type of cast iron which contains graphite in a spheroidal form. The institute, together with the "Baltiyas Rupniyeks" Plant in Riga, has developed a method of producing thin-walled castings of iron with spheroidal graphite. (17)

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